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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/684,173	10/06/2000	James R. Kittrell	00-625	3692

7590

11/09/2005

Gregory P. LaPointe  
Bachman & LaPointe, P.C.  
900 Chapel Street, Suite 1201  
New Haven, CT 06510-2802

EXAMINER
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TRAN, THAO T

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 11/09/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/684,173

Applicant(s)

KITTRELL, JAMES R.

Examiner

Thao T. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 27 and 28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to the Amendment filed on 10/31/2005. The Terminal Disclaimer timely filed on 10/31/2005 is also acknowledged.
2. Claims 27-28 are currently pending in this application. Claim 27 has been amended.

### ***Double Patenting***

3. In view of the prior Office action of 9/28/2005, the rejection of claims 27-28, under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of U.S. Patent No. 6,596,664, has been withdrawn due to the Terminal Disclaimer timely filed on 10/31/2005.

### ***Claim Rejections - 35 USC § 102***

4. In view of the prior Office action of 9/28/2005, the rejection of claims 27-28, under 35 U.S.C. 102(e) as being anticipated by Kittrell et al. (US Pat. 6,596,664), has been withdrawn due to further consideration. This application is a divisional application having an effective filing date of 6/02/1999, which is before the filing date of reference '664.
5. In view of the prior Office action of 9/28/2005, the rejection of claims 27-28, under 35 U.S.C. 102(b) as being anticipated by Kramer et al. (US Pat. 6,086,749), has been withdrawn due to further consideration.

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6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 27-28 are rejected under 35 U.S.C. 102(e) as being anticipated by Kittrell et al. (US Pat. 6,464,951) or Kittrell et al. (US Pat. 6,179,971).

The applied reference has a common Inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention “by another,” or by an appropriate showing under 37 CFR 1.131.

Kittrell ‘951 discloses a photocatalytically active support, comprising silicon in about 0.1-70 weight %, titanium dioxide in about 30-90 weight %, tungsten in about 1.0-30 weight %, and platinum and/or palladium in about 0.1-5.0 weight % (see col. 7, ln. 39-47).

Kittrell ‘971 discloses a photocatalytically active support, comprising silicon in about 0.1-70 weight %, titanium dioxide in about 30-90 weight %, tungsten oxide in about 20-30 weight %, and platinum and/or palladium in about 0.1-5.0 weight % (see paragraph crossing col. 4-5).

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 27-28 are rejected under 35 U.S.C. 103(a) as obvious over Kramer et al. (US Pat. 6,086,749).

Kramer teaches a catalyst composite, comprising an inorganic support with a deposit of one or more metals in the support. The inorganic support can be a mixture of silica and titania, whereas the metals can be tungsten oxide and platinum (see col. 37, ln. 2-20). Kramer further teaches tungsten oxide (Group VIB metal) to be about 0.5 to about 50% by weight, preferably about 0.5 to about 30% by weight; platinum (Group VIII metal) about 0.1 to about 10% by weight; and that the total metal components would be about 0.1 to about 60% by weight of the total catalyst (see col. 37, ln. 32-51), overlapping the instantly claimed ranges. Thus, the total weight of silica and titania would be about 40 to about 99.9%, overlapping the instantly claimed ranges.

Although Kramer is silent with respect to the weight percent of silica and titania separately, the weight percent of silica and titania each would be overlapping the instantly claimed ranges, because the silica weight is presently claimed to be about 0.1% to about 70% whereas the titania weight about 30% to about 90%.

Kramer, however, does not specify the individual weight percent of titania or silica.

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Therefore, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have determined the weight percent of silica and titania needed to provide the properties desired in the catalyst. Moreover, Applicant has not shown unexpected results obtained by using the particular weight percent components in the catalyst.

It is hereby noted that since the catalyst taught by Kramer comprises all of the components recited in the presently claimed invention, Kramer's catalyst would inherently be photocatalytic and would have been able to perform the same functions as the presently claimed catalyst. Moreover, it has been within the skill in the art that titanium dioxide is photocatalytic. Thus, the presence of titanium dioxide in the catalyst of Kramer would make the catalyst photocatalytic.

### ***Response to Arguments***

10. Applicant's arguments, filed 10/31/2005, with respect to the rejections of claims 27-28, under 35 U.S.C. 102 (e) as being anticipated by Kittrell '664 and under 35 U.S.C. 102(b) as being anticipated by Kramer '749, are moot because the rejections have been withdrawn.

11. Applicant's arguments filed 10/31/2005 with respect to the rejection of claims 27-28, under 35 U.S.C. 103(a) as unpatentable over Kramer '749 have been fully considered but they are not persuasive.

Applicant contends that the catalyst of Kramer is not a photocatalyst but rather a catalyst, which is used in high temperature hydroprocesssing of hydrocarbon feedstocks to upgrade to a more useful product. Applicant further argues that since the catalyst of Kramer is not a

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photocatalyst for purifying contaminated gas streams, it would not be obvious to select the composition of the catalyst as claimed in a hydroprocessing method as taught by Kramer.

However, as pointed out in paragraph 9 above, since the catalyst of Kramer comprises all of the components recited in the presently claimed invention, the catalyst of Kramer would inherently be photocatalytic and would have been able to perform all the functions as presently claimed. Moreover, it has been within the skill in the art that titanium dioxide is photocatalytic. Thus, the presence of titanium dioxide in the catalyst of Kramer would make the catalyst photocatalytic.

Furthermore, as shown in Kramer, the catalyst used in hydroprocessing is to remove undesirable components from the hydrocarbon feed streams (see col. 1, ln. 33-34). Thus, the catalyst of Kramer is to purify the contaminated hydrocarbon streams. Applicant is further reminded that intended use would have no significant patentable weight in a product claim.

It is hereby further noted that on page 4 of the Remarks, Applicant alleges that since the Board of Appeals reversed the examiner's rejection under 35 U.S.C. 102, "concluding that the reference does not teach all of the components as recited in the claims", "functionality cannot be attributed as suggested by the examiner".

Pages 4-6 of the Decision on Appeal show that the 102 (b) rejection was not affirmed because "appealed claim 27 requires specific amounts of silica, titania, titanium oxide, and an element selected from the group consisting of platinum, palladium, and mixtures thereof." And "Kramer's disclosure is not sufficiently specific to have placed the claimed catalyst in the possession of a person having ordinary skill in the art." There is nowhere in the Decision of

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Appeal that shows the reverse is based on the "functionality" of the catalyst as suggested by Applicant.

***Contact Information***

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 9:00 a.m. - 5:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tt  
November 7, 2005



**THAO T. TRAN  
PATENT EXAMINER**